Louisiana Department of Environmental Quality
Proposal for Coastal Impact Assistance Program Funding

Project Title:
Coastal Wetland Restoration through the Assimilation of Treated Sanitary Effluent

Applicant:
The Louisiana Department of Environmental Quality

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Project funds:
$20,000,000

Infrastructure funds:
$16,000,000

Description and Location of Projects:
The projects subject to funding from this grant will occur coast-wide in the Louisiana coastal zone. Recipients of this grant money will be municipal or parish governments or their authorized representatives to be used in the planning and implementation of wetlands assimilation of treated sanitary effluent for the purpose of nourishing coastal wetlands and enhancing their productivity (a list of interested entities is attached).. Individual wetlands assimilation of treated effluent (WATE) projects will be evaluated for eligibility for funding by considering the potential for enhancement of degraded wetland areas, the quantity of available wetlands, the assimilative capacity of the wetland, the monetary capacity of the municipality, the wetland purchase or servitude potential, and the infrastructure needs to treat and uniformly distribute the effluent to the wetland.

Over fifteen years of experience with wetland discharges in Louisiana has shown the benefits of treated sanitary discharges to wetlands. In forested wetlands, Hesse et al. (1998) showed that cypress trees had a higher growth rate in the discharge area than those in the adjacent control area that did not receive effluent. Recent studies have indicated that levees that had a tree barrier sustained far less damage from hurricane Katrina that the levees without trees. The impacts of the subsidence of the wetlands have been realized in recent years. Recent studies (Rybczyk et al. 2002, Hess 1996) have shown that treated wastewater stimulates productivity and the accretion in wetlands. In addition

to the value of accretion and increased productivity, the addition of freshwater into a wetland will provide a buffer to the effects of saltwater intrusion events.

The Department of Environmental Quality's (DEQ) Municipal Facilities group will be tasked with the selection of the most beneficial projects and the oversight during the construction phase of the funded projects. Projects will encompass coastal areas impacted by both hurricane Katrina and Rita. Projects of various sizes will be selected with selection emphasis placed on the restoration potential and the economic ability of the municipality. The OEA Permits Division of DEQ will set parameters to evaluate the success of each site and the Enforcement section will track the monitoring parameters which are indicators of system functionality and success of the project. Smaller, more indigent communities with no alternative funding sources may be fully funded through CIAP funds and other projects that are partially funded may receive assistance from CIAP as well.

Numerous municipalities in Louisiana and the nation are using this approach currently, some of which have been functional for approximately 15 years. A multi-agency strike team (Wetlands Assimilation Strike Team) is being coordinated by the DEQ for the purpose of identifying hurdles to the regulatory process affecting waste water discharges. Rule changes to address those hurdles are anticipated to be published by August 20, 2006.

Where feasible, these projects stand to improve the quality and quantity of wetlands within proximity to populated coastal areas, which is where the benefits wetlands provide in terms of storm surge buffer are needed. The level of awareness of this approach is low within the universe of potential applicants, but the WAST is currently working diligently to raise that awareness through the creation of workshops and hurricane recovery workgroup meetings. This concept has been presented to the Louisiana Recovery Authority, Environmental Task Force and was well received as a tool to aid in the recovery of coastal communities and their associated wetlands. The positive economic and environmental aspects to this approach demonstrates that, where feasible, wetlands assimilation of treated effluent can provide very long-term solutions to municipal infrastructure stability as well as protection and enhancement to the wetlands where many community members live and work.

With initial capital outlay to implement a given project, the long-term economic benefits include those associated with reduced operation and maintenance of traditional mechanical treatment works, biosolids handling reductions, and the alternative to tertiary treatment that other wise would be necessary for a community to meet future effluent limit reductions associated with Total Maximum Daily Loading requirements associated with the Clean Water Act. The surety of these projects has been demonstrated with in Louisiana sufficiently to enable regulation change within the Environmental Regulatory Code to categorize suitable projects and wetlands, resulting in a streamlining of the waste water discharge permit process.

Hesse, I.D, J. Day, and T. Doyle. 1998. Long-term growth enhancement of Bald cypress (Taxodium distichum) from municipal wastewater application. Environmental Management. 22:119-127

Rybczyk, J., J. Day, and W. Conner. 2002. The impact of wastewater effluent on accretion and decomposition in a subsiding forested wetland. Wetlands. 22(1): 18-32

Project type:
Conservation, restoration and protection of coastal area, including wetlands.

Project justification:
Fifteen years of experience with the assimilation of sanitary discharges into wetlands have demonstrated that it is a technology that enhances wetland productivity and results in vertical accretion of wetland soils. These projects can be used to mitigate the damages of saltwater intrusion to vegetative species. The enhanced production in forested wetlands will help to lessen the impact of waves and storm surge on protection levees and coastal communities.

Cost share:
The Department of Environmental quality will provide in-kind match in terms of personnel contribution to evaluate the projects, over see construction and implementation, ensure adequate permit coverage that is protective of the environment and track the progress with the wetland restoration after commencement of discharge. Funds provided by the CIAP will be dispersed to the potential applicants, that is the municipal and parish governmental agencies that are the responsible entities for waste water treatment within their respective communities.

Parish/municipal governments that have expressed interest in WATE:
High level of interest
- City of Franklin (the City itself is not located in the Coastal Zone, but the wetlands are located in the CZ)
- St. James - (3) projects: Lutcher, Gramercy, and unincorporated areas
- St. John the Baptist – LaPlace
- St. Charles – Paradis
- Jefferson – (5) projects: Gretna, Harvey, Marrero, Rosethorne, and Jonathan Davis
- Slidell (will be applying for Parish CIAP funds)
- Mandeville (applying for Parish CIAP funds to fund outfalls)

Potential Projects that have not had opportunity to request assistance
- Cameron Parish – Holly Beach
- Vermillion Parish – Intercoastal City
- Lafourche Parish – LaRose
- St. Tammany Parish – Madisonville
- St. James (3) Projects: Lutcher, Gramercy, and unincorporated areas
- St. Charles – Paradis

- Jefferson – Jonathan Davis facility
- St. John the Baptist Parish – LaPlace